Report No. 16-RD-83

EVALUATION OF THE E-Z CASSETTE PLAYER

Prepared for:

Library of Congress
National Library Service for the Blind
and Physical Hanidcapped
1291 Taylor Street
Washington, D.C. 20054

August 31, 1983

VSE CORPORATION
2550 HUNTINGTON AVENUE
ALEXANDRIA, VIRGINIA 22303


EX-
LIBRIS
M.C. MIGEL LIBRARY
AMERICAN PRINTING
HOUSE FOR THE BLIND

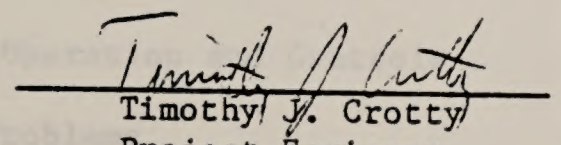
Report No. 16-RD-83
0284.001

EVALUATION OF THE E-Z CASSETTE PLAYER

Prepared for:

Library of Congress
National Library Service for the Blind
and Physically Handicapped
1291 Taylor Street
Washington, D.C. 20054

Prepared by:



Timothy J. Crotty
Project Engineer

August 31, 1983

VSE Corporation
2550 Huntington Avenue
Alexandria, Virginia 22303

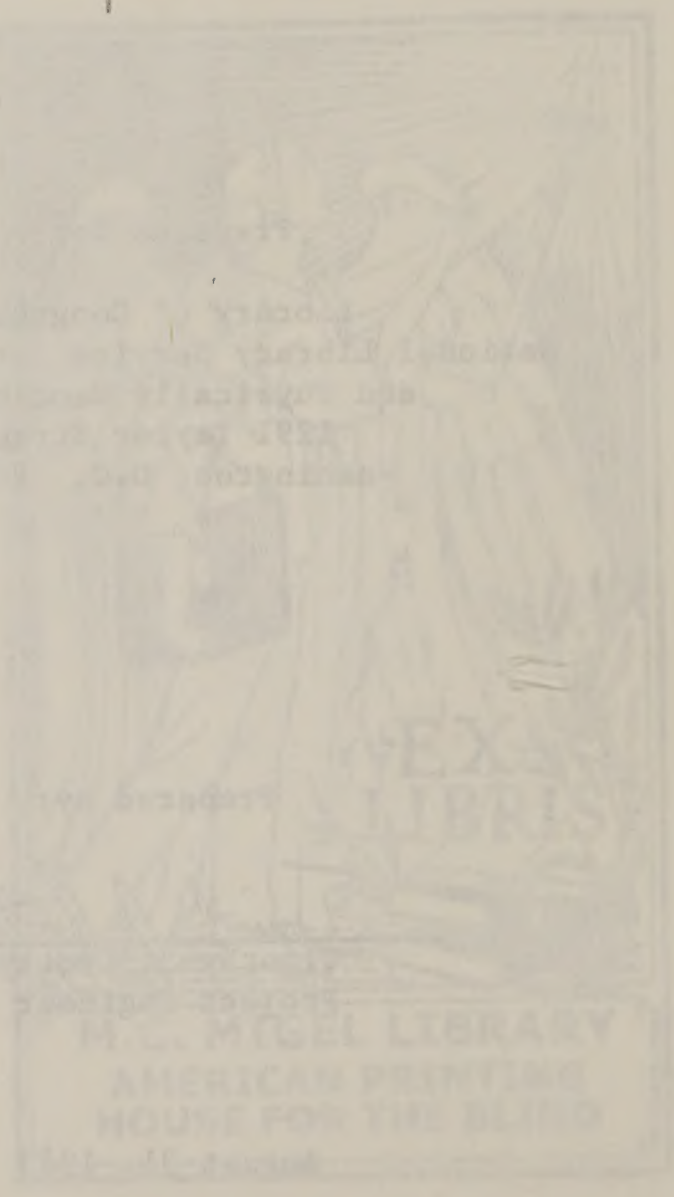


TABLE OF CONTENTS

1.0 INTRODUCTION

VSE Corporation, under contract number LC-2631, conducted an evaluation of the E-Z cassette player, for the National Library Service (NLS) for the Blind and Physically Handicapped. The purpose was to determine if the E-Z cassette player is suitable for readers who either had no previous experience with cassettes or who cannot operate a standard NLS cassette player. The evaluation involved distributing E-Z players to volunteer library patrons, providing personalized instruction in operating the machines, leaving the machines with the readers for 30 to 60 days, discussing their reactions to the equipment, and completing a questionnaire with regards to the machine's acceptability.

2.0 SUMMARY

E-Z cassette players were evaluated by volunteers to determine the new machine's acceptability. Volunteers were chosen by NLS either because they had tried to use a standard NLS cassette player in the past and had problems operating it, or had resisted using cassettes at all. This involved delivering a machine to the volunteer, giving instructions on how to operate the machine, and leaving it with the volunteer to use for 1 to 2 months. At the end of that time, the experiences of each participant were discussed and each was administered a questionnaire to determine specific likes and dislikes about the machine. Records were also kept of machine malfunctions and any problems.

The E-Z machine was found to be very popular with elderly readers because of the automatic side advance feature and the fact that there are only two controls necessary for normal use. The study did reveal a problem with the microprocessor that controls the automatic side advance feature. When this problem is corrected, NLS will have a cassette player that will be readily accepted by the elderly.

1.0 INTRODUCTION

3.0 MACHINE DESCRIPTION

The E-Z cassette player is designed to play the standard four track monaural cassette used in the Talking Book Program. In keeping with the NLS nomenclature used in the Talking Book Program, each track is referred to as a side.

The player is slightly smaller and heavier than the current production cassette player. Figure 1 shows the E-Z machine and the regular cassette players side by side. The E-Z machine's dimensions are 3-inches high, 7 1/2-inches wide and 10-inches deep. The machine weighs approximately 5 1/2 pounds. The color of the case and the operating controls of the evaluated machines were black.

There are only 3 operating controls on the forward part of the machine as compared to 10 on the regular player. The first control on the E-Z machine is a slide switch, located on the left side of the machine, which handles three functions. It controls the volume, turns the machine on and off and acts as an interlock to prevent accidental ejection of the cassette. To the right of the slide switch is a push switch. This is the review switch and rewinds the tape when the button is held down. The third control is the sliding door, which covers the cassette and which also starts and stops the machine. There are two controls on the right hand side at the rear of the machine. The forward control is a slide switch which enables use of the machine in either the manual or automatic tape side-advance mode. Just behind this slide switch is a push-button switch which if pressed briefly, identifies the tape side being listened to by a series of beeps. Holding in on the button for approximately two seconds, or until a tone is heard, and then releasing the button, will advance the tape to the next side. There is a headphone and an earphone jack located on the front panel of the machine.

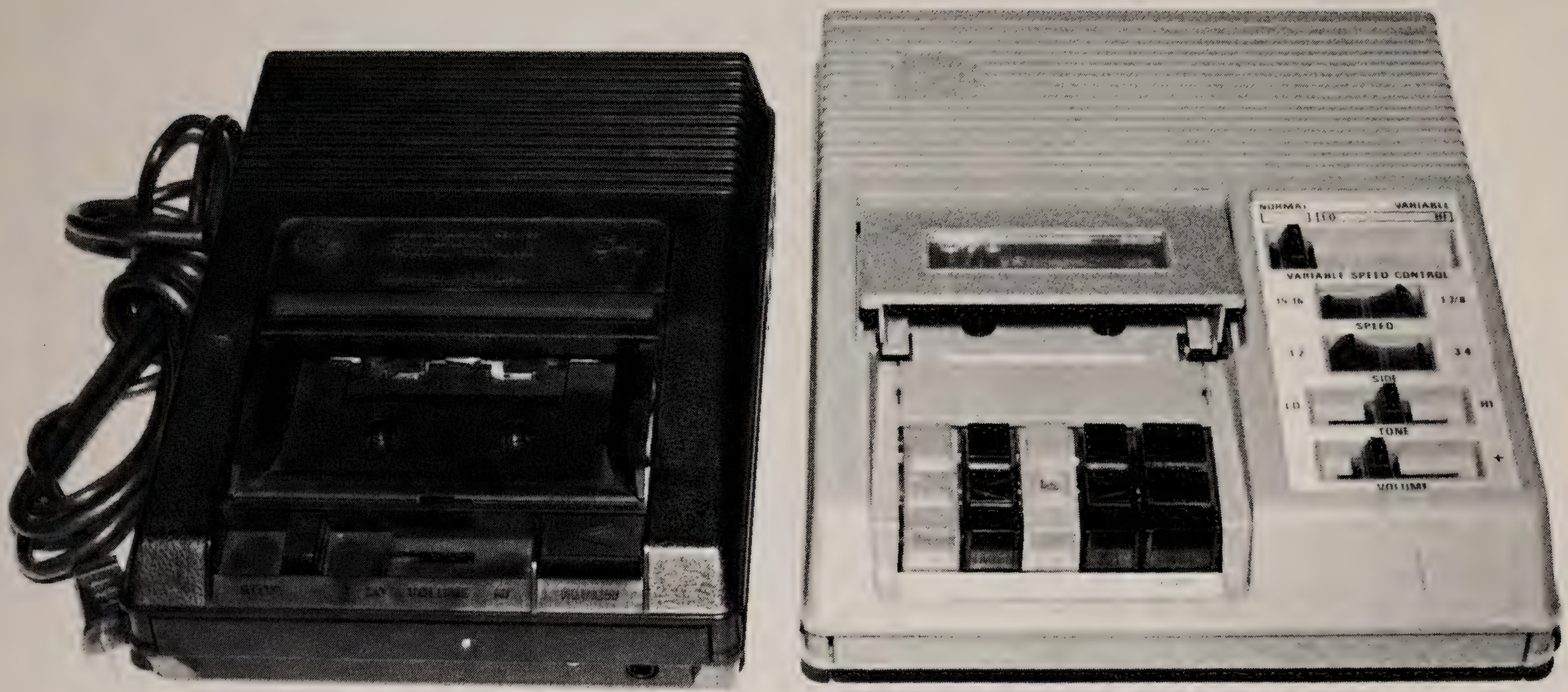


Figure 1. E-Z Cassette Player (Left) and Standard Cassette Player (Right).

A microprocessor controls the automatic side advance function of the machine. A small battery powers a memory which retains the side of the cassette being played when the power cord is unplugged.

4.0 OPERATION

The E-Z cassette player was designed to handle as many functions automatically as possible, thereby leaving the reader with fewer operations to perform as compared with the regular cassette player. A result of this automation is that steps for operating the player must be followed in exact sequence or the machine will not function properly. Also, since this machine uses the standard NLS cassette, certain commands on the tape must be ignored, or the tape will not play in the proper sequence. The power cord must be plugged in before any operation is performed on the player. Proper initial positioning of the controls and cassette tray is critical. First, the "volume/ stop" slide switch must be in the left or stop position. Second, the door covering the cassette tray must be in the "rear" position, so that the tray is fully exposed. Third, the cassette tray must be in the "up" position. This is determined by assuring that the hubs do not protrude through the tray. The tray is raised to the "up" position by pressing down on it until a click is heard and then releasing it. A spring returns the tray to the "up" position. Finally, the slide switch on the right hand side of the machine should be in the forward or "AUTO" position, if the machine is to automatically advance to the next side.

The cassette is then placed on top of the tray with the tape end toward the rear of the machine and the cassette side with the braille markings facing up. The cassette is pushed down until a click is heard. It is easier to push the cassette into the locked position by pressing between the front edge and the hub holes of the cassette.

Next, the door just to the rear of the cassette is slid forward over the cassette so the hubs are just covered. Approximately 1 inch of the cassette will still be exposed. At this time, the cassette will automatically be rewound to its beginning. When the rewinding is completed, a beep from the speaker indicates that the cassette is ready to be played. The volume control is then moved to the right, about one-half inch past a detent. This starts the tape moving, and it takes approximately 20 seconds to start the text. Since the cassettes that will be played in this machine are the standard talking books, there will be a message at the end of sides 1, 2 and 3 to turn the cassette over as well as to change the position of the side selector switch after side 2. Those commands are ignored as the machine will automatically advance the tape to the next side.

When all the material on a tape has been played, a single long tone will sound. The volume switch is then pushed into the stop position. This will rewind the cassette to the beginning of the tape which is signified with a beep. The cassette can then be ejected.

If the cassette has stopped for any reason, except completion of tape, there will be a single beep followed by a long tone. The procedure listed in Section 5.0 can be followed to restore normal operation.

The reader should be sure that all of the material on the cassette has been played before ejecting the cassette, since returning to a particular point on a cassette is difficult.

Cassettes are ejected in the following manner. First, the volume/stop control must be in the stop position. Second, the door over the cassette must be pushed to the rear so the entire cassette is exposed.

Third, the cassette is pressed down near the front edge until a click is heard and then released. A spring will push the cassette tray and cassette to the up position. The cassette should not be lifted out of the tray before ejecting unless there is a problem with the cassette. The microprocessor is powered whenever the machine is plugged in, which causes the case to become warm to the touch, even when the machine is off.

5.0 MANUAL OPERATION

Under certain circumstances, such as if the reader periodically leaves the machine without turning it off, it may be desirable to operate the machine in the manual mode. The machine is switched into the manual mode by moving the slide switch on the right hand side of the machine to the "MAN" position. The machine will sound a beep and stop at the end of each side of the tape. The tape must be advanced to the next side using the side advance key, which is located just behind manual/auto switch. If the key is pushed in momentarily and released, one or more beeps will be heard. For example, if the machine is playing on side 3, three beeps will sound. If the button is held in for about 2 seconds, a tone will be heard from the speaker. Upon releasing the button, the machine will advance to the next side, and sound a number of beeps corresponding to the side being played.

6.0 TROUBLESHOOTING

Most of the common difficulties that can occur when using the E-Z cassette player are cassette related. Due to the high degree of automation in this player, corrective action is usually complicated and should only be taught to a reader who is comfortable using the player. It is also critical that every effort be made to supply patrons with books that are in playable condition. Examples of some common problems

and their solutions follow:

Problem: After side 1 has played, the machine sounds a short beep followed by a long beep.

Probable Cause: Tape threaded behind capstan on right side.

Remedy: Do not turn volume off. Slide door covering cassette back, reach in and pull cassette straight up off the hubs without ejecting the cassette. If a loop of tape is present, wind it back into the shell and replace cassette. Close door over the cassette and listen for a beep. After the beep is heard, press the "ADVANCE" button on the right hand side of the machine until a tone is heard from the speaker and then release the button. Wait for text.

Problem: Voice stops in middle of text, starts up again on next side.

Probable Cause: Tape had jammed in cassette.

Remedy: Press side selector switch briefly and release. Remember the number of beeps. Press and remove cassette as outlined above. Unjam cassette if possible. Place cassette back in machine. Turn machine on. Advance to the side being played before the tape jammed.

Problem: Machine is started within 30 seconds of a side change and it did not advance to the next side.

Probable Cause: The sound detector for the automatic side advance requires thirty seconds of sound to be activated.

Remedy: Press "ADVANCE" button until a tone is heard and then release. Wait for material to start (could be several minutes).

Problem: Reader returns to listen to tape and the machine will not start.

Probable Cause: Reader inadvertently left machine on and it has run to the end of the tape. This is also a symptom of a microprocessor problem (see Section 10.0).

Remedy: If the tape was on side 4, pushing on the review key will rewind the tape. If it is on other than side 4, or if reader is unsure of the side, then start the tape cassette over. If this happens to the reader often, manual mode operation is suggested.

7.0 PARTICIPANT SELECTION

NLS called on librarians in the Washington, D.C. and Baltimore City areas for a list of readers who either used discs and not cassette, or else had difficulties with the regular cassette player. NLS then contacted the readers to determine those interested in volunteering for the program. NLS supplied VSE with a total of 46 possible candidates. This number included three readers from outside the test area, who were to be serviced by mail. Due to delays in the production of the machine, there was a delay of approximately 3 months from the time of the NLS contact with the readers to VSE's initial contact. As a result, nine of the volunteers who had earlier indicated they would participate were no longer interested when VSE made its initial phone contact. A profile of the participants is located in Appendix B.

8.0 PARTICIPANT EVALUATION

Appointments to deliver machines were made at the reader's convenience, and were conducted at the reader's residence. Readers were instructed on the use of the machine and were left two books. Readers were also instructed to get additional books from their local libraries. The deliveries were followed by a phone call approximately 1 week later.

A second visit was made, when necessary, to instruct readers further in the operation of the machine. There were no written directions left with the machine. Participants were contacted every 2 or 3 weeks by telephone to determine if there were any difficulties with their machine. Readers who had problems that could not be solved over the phone were visited and the problem corrected or the machines were replaced. At the end of the test period, a questionnaire was administered to the participants by VSE personnel who recorded their responses.

9.0 EVALUATION

Of the 38 readers who participated, 27 used the machines enough to complete the evaluation. Reasons given for not using the machine varied from illness and lack of interest to not being physically or mentally able to operate the controls.

The questionnaire was prepared by NLS. VSE reviewed the questionnaire and passed comments to NLS. NLS then approved the questionnaire. A copy of the questionnaire is located in Appendix C.

The first section dealt with the physical aspects of operating the machine. Table 1 is a listing of the readers who had difficulties with the various operations. The following are the additional comments solicited from readers who had difficulties. Numbers in parenthesis identify readers who made specific comments.

1. Placing a cassette into the machine. Three readers had problems. In one case, the reader was inserting the cassette with the tray in the down position (12). The other two had problems lining up the cassette. One user worked the problem out himself (15) while the other did not use the machine much and continued to have trouble (23).

2. Sliding the door over the cassette. One reader was pushing the cassette down on the leading edge, which left the other edge of the cassette not fully down (1).

3. Turning the cassette on. No problems were reported.

4. Adjusting the volume. Two readers who listened at low volume would like an additional range of low volume adjustments (7, 10).

5. Backing the tape up to hear what had just been played. Thirteen readers indicated they did not attempt to use this control, while four readers had difficulty using the feature. Their problems were as follows: Could not find the button (12), tape moved too fast (17), did not hold key down long enough (25), and the key had to be pushed down just right in order to function (10).

6. Removing a cassette from the machine. One reader was pulling the cassette out of the hubs instead of using the proper ejecting technique (27). The ejection procedure was reviewed with each reader in first follow-up phone call, which probably helped forestall many additional problems.

7. Turning the machine off. No problems. Many readers used the door to turn the machine off.

8. Moving the machine from place to place. Most readers did not move the machine and those who did, did not have any difficulties doing so. Three readers thought the machine was too heavy for easy portability (10, 23, 26).

9. Opening the mailing container. Seven readers found the snaps to be very difficult to open (10, 13, 19, 20, 21, 23, 27).

10. Selecting the right cassette from the mailing container. Eight readers had problems, which resulted from the reader not being able to

see the number on the cassette. This meant that the reader had to start playing the beginnings of several cassettes in order to find the desired one (1, 3, 11, 13, 21, 23, 24, 27).

11. Knowing which side of the cassette faced up. Where this problem occurred, the readers forgot to make certain that the braille side of the cassette was up or else they decided that since they could not read braille, that the information was of no use to them (3, 16, 13, 15, 20).

12. Placing cassettes back in mailing carton. Two of the readers had difficulty because the tight fit of the cassette made its placement in the container difficult (10, 12).

13. Closing the mailing carton. Four readers complained about the physical effort required to force the snaps shut (10, 12, 13, 23).

The second part of the evaluation dealt with various problems that might occur with the machine. Table 2 lists the readers' difficulties. The following comments were expressed by readers in addition to a simple yes or no answer.

1. After the cassette was put into the machine, there wasn't any sound.

Eight readers had this difficulty. The two major problems seemed to be either not pushing the stop/volume control a enough to the right past the detent or the leader was long, delaying the start of the reading.

2. Tape tangling inside the machine. Five readers experienced this problem, usually only once or twice. This does not include spills that occurred on unmodified modules (see Section 10). Most tangles were easily taken care of by the reader.

3. " When I put a cassette into the machine, it began on the second side, and I could not find the first side." Four readers had

this problem. The cause of this problem is placing the cassette in the machine with the braille label facing down.

4. The voice on the tape was muffled. None of the readers had this complaint.

5. The voice on the tape was shrill. Three readers thought some female voices were shrill. The same voices could be made acceptable on the disc player using the tone control (1, 2, 27). One reader who uses an NLS amplifier also has trouble with discs (14).

6. The reader (narrator) was speaking too fast. Two readers thought that the words in some of the books were spoken at a fast rate of speed (14, 17).

7. The reader (narrator) was speaking too slowly. One reader who prefers using the regular NLS cassette player likes the flexibility of the variable speed control (26).

8. Do you have hearing problems when you listen to a disc player? (Ask if answer to above four questions is yes.) Only one reader responded positively (14). That reader uses a NLS amplifier and headphones, and had the same problem with both the disc player and the E-Z machine.

9. "I took a cassette out of the machine and I could not find my place in the book when I put the cassette into the machine again." Four readers experienced this problem once or twice. The problems occurred on the first and second tapes played and was caused by the voice on the tape instructing them to turn the cassette over. After the initial problems were solved, most readers did not have additional problems. One reader thought that she was finished with side 4, when she was actually only finished with side 3, and listened to the entire tape over to get to side 4 (16).

10. " The cassettes got out of order and I could not get them into their proper boxes." No one admitted to having this problem, but the interviewer found cassettes in the wrong boxes on one pick-up when he was asked to close the mailing cartons (1).

11. "Are the beeps annoying?" The only negative comment asked why they were necessary (5).

The next set of questions dealt with the lack of versatility of the E-Z cassette player.

The first question asked if there were any non-NLS cassettes that they would like to be able to play. There were two positive responses (18, 26).

The second question dealt with whether the readers would like to change from reading one book to another, and be able to go back to the first book. Five readers would have liked this option (10, 15, 17, 19, 26) but most said that not having the capability was not a critical deficiency.

The third question asked those readers who had used a NLS cassette player in the past to compare the two machines. Of the 13 readers who had used a NLS cassette player in the past, all but 1 felt that the E-Z machine was better. The areas of improvement cited were fewer controls and not having to turn the cassette over.

The last two questions in this section asked how many books had been read on the machine, and whether this was more, the same or less than they would normally read during this test period. This data is presented in Table 3, Appendix A.

The final question on the questionnaire asked the readers for their general opinion of the machine. Their responses were as follows:

Positive Comments:

- Liked the machine (1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 12, 13, 14, 15, 16, 17, 18, 19, 20, 21, 22, 23, 24, 25)
- Liked fewer keys (2, 6, 14, 24)
- Excellent sound (3, 7, 12, 17, 21)
- Easy handling (21, 22)
- Plays entire tape without ejecting (1, 2, 6, 18, 19 21)
- Liked door switch (13)

Negative Comments and Suggestions:

- Needs fast forward (5, 16, 19 27)
- Prefer disc player (27)
- Leader too long (3)
- Did not like black case and controls (4, 7)
- Letters on case should be white (11)
- Needs tone control (27)
- Machine too heavy (23, 26)

10.0 RELIABILITY

There were three problems that became apparent during the evaluation.

The first was that tape were spilling out of the cassette, producing a loop of tape when the cassette was ejected. Nine of the first twelve machines delivered had this problem at least once during the first 2 weeks of the evaluation. The manufacturer was advised of the situation and they changed the internal program in the machine, which reduced the problem.

The second problem was that the machine would play the first side of a tape, but stop and give a long tone at the beginning of side 2. The tape was slipping behind the capstan when the cassette was inserted. Possible causes include readers touching the tape in the shell, trying to locate the open side while inserting the cassette into the machine, and also loose tape in the shell. There appears to be no design modification possible to prevent this problem. However, having the reader shake the cassette several times before inserting it into the machine, seems to alleviate the problem to some extent.

The last problem occurred periodically during the evaluation, but was difficult to define because of different modes of failure. The problem occurred while the machine was turned off, but still plugged in, with a partially read cassette in the machine. Even though the machine is turned off, power is still being fed to the microprocessor. Upon restarting, the machine would either not run at all, or else both hubs would turn inward to opposite directions, causing a massive tape spill. The problem was difficult to track down because when this occurred, most readers immediately unplugged the machine. When the machine was plugged in and a new tape loaded, the machine would operate properly. The problem was finally determined to be a voltage variance, such as is caused by thunderstorms or an air conditioner being turned on, which caused the microprocessor to not function properly. The manufacturer is working to solve this problem.

11.0 CONCLUSION

The vast majority of the volunteers who evaluated the E-Z cassette player were pleased with its design and operation. There were no major continuing problems once the readers were familar with its operation. Due to the player's operational sequence, special attention should

be given to the methods of teaching new readers to use the machine. Local and regional library personnel should be familar with machine operation and problems. During the evaluation, VSE personnel could troubleshoot machines over the phone by listening for tones and when they occurred.

There were very few criticisms of the design or functions of the players. The features liked best about the player were the need for fewer controls and automatic track changing. The only major problem found with the player involved the microprocessor, which does not function properly after voltage change in the line. After this problem is solved, the E-Z player should be acceptable for production.

APPENDIX A

TABLE I - MACHINE OPERATION AND CONTROLS

Activity	Reader Number																									
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
1. Placing a cassette into the machine												X			X								X				
2. Sliding the door over the cassette	X																										
3. Turning the machine on																											
4. Adjusting the volume							X			X																	
5. Backing up the tape to hear what was just played										X		X					X								X		
6. Removing a cassette from the machine																											X
7. Turning the machine off																											
8. Moving the machine from place to place										X													X		X		
9. Opening the mailing container for the cassette										X		X							X	X	X		X				
10. Selecting the right cassette from the mailing container	X		X								X		X							X	X		X				X
11. Knowing which side of the cassette is supposed to face up in the machine			X			X							X		X					X							
12. Placing cassettes back into the mailing container										X		X															
13. Closing the mailing carton										X			X	X									X				

X indicates the reader had difficulty with this particular activity

TABLE II - COMMON PROBLEMS

Problem	Reader Number																										
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
1. After you put the cassette into the machine, there wasn't any sound.			X			X					X	X		X		X	X					X					
2. Tape tangled inside the machine							X					X		X										X	X		
3. When put a cassette into the machine, it began on the second side.													X				X	X		X							
4. The voice of the person reading the book was muffled.																											
5. The voice of the person reading the book was shrill.	X	X																									X
6. The person reading the book was speaking too fast.														X			X										
7. The person reading the book was speaking too slow.																										X	
8. Do you have hearing problems when you listen to a disc player? (Ask if answer to above four questions is yes														X													
9. I took a cassette out of the machine and I could not find my place in the book when I put the cassette into the machine again.													X	X	X	X											
10. The cassettes got out of order and I could not get them into their proper boxes.	X																										
11. The beeps after a cassette was placed in the machine were too loud.					X																						

X indicates difficulty

TABLE III - GENERAL ACCEPTABILITY AND MACHINE USE

	Reader Number																										
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
1. Were there other than NLS cassettes you would like to be able to play?	N	N	N	N	N	N	N	N	*	N	N	N	N	N	N	N	N	Y	N	N	N	N	N	N	N	Y	
2. Would you like to be able to switch between books?	N	N	N	N	N	N	N	N		Y	N	N	N	N	Y	N	Y	N	Y	N	N	N	N	N	N	Y	N
3. Was the easy machine easier to use than the regular player?	Y	Y		Y	Y					Y	Y			Y	Y	Y		Y			Y				Y	N	
4. How many books did you read on the easy machine?	3	2	6	2	4	3	4	6		30	2	6	4	15	11	2	24	15	4	4	2	2	2	2	2	1	4
5. Was this number more, the same, or less than you would normally read?	L	S	S	S	L	L	M	L		M	S	-	M	S	S	L	S	S	S	S	L	S	L	L	L	L	S

L indicates fewer books than normal
Y indicates yes
N indicates no
S indicates the same number of books
M indicates more books than normal

*This reader is a quadriplegic who directs nursing home personnel how to use machine. He uses the machine in conjunction with a remote breath switch and likes the machine very much. He has not used Talking books in the past.

APPENDIX B

TABLE IV - PARTICIPANT PROFILE

READER NUMBER	AGE	SEX	HANDICAP	YEARS IN PROGRAM	CASSETTE EXPERIENCE*	COMMENTS
1	76	F	Blind	4-6	Yes	Controls were difficult to find on standard NLS cassette player.
2	89	F	Vis. Hand.	10+	Yes	Side selector switch on regular player easy to do wrong.
3	65	M	Vis. Hand.	10+	No	Very obstinate; required a second orientation to lean machine.
4	75	F	Vis. Hand.	1-3	Yes	Used regular cassette, but had trouble with controls (side selector).
5	86	F	Vis. Hand. Wheelchair	7-9	Yes	Used regular cassette very little.
6	36	F	Cerebral Palsy	10+	No	No problem operating E-Z machine.
7	72	F	Vis. Hand.	4-6	No	Excessive trouble with spills.
8	80	F	Vis. Hand.	10+	No	
9		M	Quadriplegic	New	No	Directs helper in use of machine. Uses E-Z machine with remote breath switch.
10	65	F	Vis. Hand. Arthritis	4-6	Yes	Husband operates all equipment. Liked auto track change feature used with breath switch.
11		F	Vis. Hand.	New	Yes	Did not understand how to operate regular cassette player.
12	89	F	Vis. Hand.	7-9	No	
13	59	F	Vis. Hand.	New	Yes	Uses regular cassette occasionally.
14	94	F	Vis. Hand. Hear Impaired	4-6	Yes	Uses NLS amplifier. Regular cassette too difficult to use.
15	91	F	Vis. Hand.	1-3	Yes	Experienced confusion with controls on regular cassette player.
16	86	F	Vis. Hand.	10+	Yes	Experienced difficulty changing sides on regular cassette player.

TABLE IV - PARTICIPANT PROFILE (continued)

READER NUMBER	AGE	SEX	HANDICAP	YEARS IN PROGRAM	CASSETTE EXPERIENCE*	COMMENTS
17	86	F	Vis. Hand.	10+	No	
18	88	F	Vis. Hand.	1-3	Yes	Trouble using side selector and volume switches on regular cassette player.
19	82	F	Vis. Hand.	4-6	No	Visited three times for reinstruction.
20	82	F	Vis Hand Phys. Hand.	1-3	No	
21	67	F	Vis. Hand. Arthritis	1-3	Yes	Difficult for her to operate regular cassette player due to arthritis.
22	80	F	Vis. Hand. Hear Impaired	10+	No	Listens to cassete at high volume.
23	91	F	Vis. Hand.	4-6	Yes	Could not operate regular cassette player.
24	66	F	Vis. Hand.	1-3	No	
25	77	F	Vis. Hand.	4-6	Yes	Speaker hummed and difficulty finding correct side of tape.
26	80+	F	Vis. Hand.	New	Yes	Uses regular cassette player and likes its versatility.
27	77	M	Vis. Hand.	10+	No	Likes material available on flexible disc. E-Z machine needs FAST FORWARD and tone control.
28	85	F	Vis. Hand.	10+	No	Hosptialized for part of test period. Did not like the E-Z machine.

APPENDIX C

SIMPLIFIED MACHINE EVALUATION

NAME _____

ADDRESS _____

_____

TELEPHONE Home _____

Work _____

MACHINE NO. _____

DATE DELIVERY _____

DATE PICKED UP _____

PRE-EVALUATION INFORMATION

A. Age_____

B. Male_____ Female_____

C. For how many years has it been difficult for you to read print material? ____

D. Handicapping condition

_____blind

_____visually handicapped

_____hearing impaired

_____physically handicapped

_____learning disabled

_____other _____

E. How many years have you been using the Talking Book Program?

_____less than 1

_____1 to 3

_____4 to 6

_____7 to 9

_____10 or more

F. Have you been reading ___discs (records) only? ___cassettes only?

___discs and cassettes?

G. Have you used any other kind of cassette player from the library in the past? ___Yes ___No (If no, skip next question)

H. Could you describe your experiences with the other cassette player?

TELEPHONE CONTACTS

SIMPLIFIED MACHINE EVALUATION

Introduction

Over the past few weeks, you have been assisting the National Library Service for the Blind and Physically Handicapped of the Library of Congress by using the recently developed Simplified Cassette Machine. The purposes of the evaluation are to obtain your reaction to this type of equipment, its reliability, and ease of operation. We also need your overall opinion of the Simplified Machine.

At the request of the Library of Congress, we at VSE Corporation have been managing the day-to-day aspects of this evaluation. First, I would like to ask you about your use of the machine. I will write down your answers. Most often, the required answer is short, but please feel free to add comments as we go along, and I will also write down those comments.

I am going to read a list of activities. For each activity, please indicate if you did or did not have difficulty performing the activity. If you are unfamiliar with any term used, please let me know and I will describe the activity in more detail. If you are unsure about the difficulty of the activity, some comment about your experience in each area will be very helpful. (To interviewer: After each item, repeat "had difficulty/did not have difficulty." Probe for additional comments.)

	Activity	Had Difficulty	Did Not Have Difficulty	Comments
(1)	A. Placing a cassette into the machine			
(2)	B. Sliding the door over the cassette			
(3)	C. Turning the machine on			
(4)	D. Adjusting the volume			
(5)	E. Backing up the tape to hear what was just played			
(6)	F. Removing a cassette from the machine			
(7)	G. Turning the machine off			
(8)	H. Moving the machine from place to place			
(9)	I. Opening the mailing container for the cassettes			
(10)	J. Selecting the right cassette from the mailing container			
(11)	K. Knowing which side of the cassette is supposed to face up in the machine			
(12)	L. Placing cassettes back into the mailing container			
(13)	M. Closing the mailing carton			

Did you experience any of the following problems while using the Simplified Machine? (To interviewer: Please read "yes/no" after each item. If yes, "how often.")

	Problem	Yes	No	How Often	Comments
(1) A.	After you put the cassette into the machine, there wasn't any sound.				
(2) B.	Tape tangled inside the machine				
(3) C.	When I put a cassette into the machine, it began on the second side, and I could not find the first side.				
(4) D.	The voice of the person reading the book was muffled.				
(5) E.	The voice of the person reading the book was shrill.				
(6) F.	The person reading the book was speaking too fast.				
(7) G.	The person reading the book was speaking too slow.				
(8) H.	Do you have hearing problems when you listen to a disc player? (Ask if answer to above four questions is yes)				
(9) I.	I took a cassette out of the machine and I could not find my place in the book when I put the cassette into the machine again.				
(10) J.	The cassettes got out of order and I could not get them into their proper boxes.				
(11) K.	The beeps after a cassette was placed in the machine were too loud.				

I have only a few more questions to ask you and we will be finished.

(1) A. Were there other cassettes you would have liked to have played, but could not using this machine?

(2) B. Did you want the ability to change from reading one book to another?

(3) C. Was this Simplified Machine easier for you to use than the other cassette player?

___Yes ___No ___Unsure ___Have not used other players

(4) D. How many books did you read while you were using the Simplified Machine?

_____number of books

(5) E. Is this number ___more, ___less, or ___about the same number as you usually read?

What is your general opinion of the Simplified Machine?

VSE CORPORATION